

**TITLE 18. ENVIRONMENTAL QUALITY**  
**CHAPTER 4. DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**SAFE DRINKING WATER**

**ARTICLE 2. STATE DRINKING WATER REGULATIONS**

**R18-4-212. Groundwater Under the Direct Influence of Surface Water**

- A.** The Department suspects the following sources to be groundwater under the direct influence of surface water:
1. A spring;
  2. An infiltration gallery;
  3. A radial well collector, Ranney well, or horizontal well;
  4. A well that is less than 500 feet from a surface water, and:
    - a. The Department conducts a vulnerability assessment and determines that the source is vulnerable to direct surface water influence, or
    - b. The Department cannot assess the vulnerability of the groundwater source to direct surface water influence because of a lack of information or the uncertainty of available information on the local hydrogeology or well construction characteristics;
  5. A shallow well with perforations or well screens that are less than 50 feet below the ground surface;
  6. A hand-dug or auger-bored well without a casing;
  7. A groundwater source for which turbidity data is available that shows that the groundwater violates an interim MCL for turbidity;
  8. A groundwater source for which data is available that shows that total coliform, fecal coliform, or *E. Coli* are present in untreated groundwater from the source that are not related to new well development, source modification, repair, or maintenance; and
  9. Any groundwater source if the temperature of the groundwater fluctuates 15% to 20% from the mean groundwater temperature over the course of a year or if changes in the temperature of the groundwater correlate to similar changes in the temperature of surface water.
- B.** The Department shall conduct a sanitary survey of each public water system that the Department suspects is using a groundwater source under the direct influence of surface water.
- C.** The Department shall provide written notice to a public water system that the Department suspects a groundwater source is under the direct influence of surface water. A public water system may submit information to the Department to show that a groundwater source is not under the direct influence of surface water. Information that is submitted to show that a suspect groundwater source is not under the direct influence of surface water shall be in writing and shall be prepared by a qualified professional, such as a professional engineer registered in Arizona, registered geologist, water system operator, or hydrogeologist. The Department shall review any information submitted by a qualified professional to show a suspect groundwater source is not under the direct influence of surface water within 90 days after receipt of the information and determine if the source remains suspect.
- D.** If a groundwater source continues to be suspect after the analyses required in subsections (A) through (C), the Department may require a public water system that is suspected of using a groundwater source that is under the direct influence of surface water to conduct Microscopic Particle Analysis (MPA) monitoring of the groundwater source. A public water system may request that the Department allow the system to use an alternative method to determine whether a groundwater source is under the direct influence of surface water. An alternative method to determine whether a groundwater source is under the direct influence of surface water shall be approved by the Arizona Department of Health Services under 9 A.A.C. 14, Article 6.
- E.** A public water system shall conduct MPA monitoring as follows:
1. Each sample shall be representative of the groundwater source. A public water system shall not take a sample of blended water or a sample of water from the distribution system.
  2. Each sample shall be collected and analyzed according to the procedures prescribed in the "Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA)," EPA 910/9-92-029, United States Environmental Protection Agency, Environmental Services Division, Manchester Environmental Laboratory, 7411 Beach Dr. E., Port Orchard, WA 98366, October 1992 (and no future editions or amendments), which is incorporated by reference and on file with the Department.
  3. The Department shall schedule MPA monitoring at a time when the groundwater source is most susceptible to direct surface water influence.
  4. The Department shall use the MPA risk ratings in Table 1 to determine whether groundwater is under the direct influence of surface water.
    - a. If the MPA risk rating of the initial sample indicates a high or moderate risk of direct surface water influence, the public water system shall collect a second sample for MPA at the same location on a date scheduled by the Department. If the MPA risk rating of the second sample indicates a high or moderate risk of direct surface water influence, the Department shall determine that the groundwater is under the direct influence of surface water. If the risk rating of the second sample indicates a low risk of direct surface water influence, the public water system shall collect a third sample for MPA at the same location on a date scheduled by the Department. If a third sample is taken, the Department shall determine whether the groundwater is under the direct influence of surface water under

- subsection (E)(4)(c).
- b. If the MPA risk rating of the initial sample indicates a low risk of direct surface water influence, the public water system shall collect a second sample for MPA at the same location on a date scheduled by the Department. If the MPA risk rating of the second sample indicates a low risk of direct surface water influence, the Department shall determine that the groundwater is not under the direct influence of surface water. If the MPA risk rating of the second sample indicates a high or moderate risk of direct surface water influence, the public water system shall collect a third sample for MPA at the same location on a date scheduled by the Department. If a third sample is taken, the Department shall determine whether the groundwater is under the direct influence of surface water under subsection (E)(4)(c).
  - c. If a third sample is required and the MPA risk rating of the third sample indicates a high or moderate risk of direct surface water influence, the Department shall determine that the groundwater is under the direct influence of surface water. If the MPA risk rating of the third sample indicates a low risk of direct surface water influence, the Department shall determine that the groundwater is not under the direct influence of surface water.
- F.** If the Department determines a source to be groundwater under the direct influence of surface water under subsection (E) and a public water system demonstrates to the Department that it is feasible to take corrective action to prevent direct surface water influence, the Department shall establish a schedule of compliance for the public water system to take corrective action instead of requiring installation of filtration and disinfection treatment. A schedule of compliance to take corrective action shall require:
1. Completion of corrective action no later than 18 months after receipt of the initial MPA monitoring results, and
  2. A second round of MPA monitoring to determine whether the source is under the direct influence of surface water after completion of the corrective action.
- G.** Except as provided in subsection (F), a public water system with a source that the Department determines to be groundwater under the direct influence of surface water shall provide filtration and disinfection required under 40 CFR 141 Subparts H, P, and T, as incorporated by reference in this Chapter, within 18 months after the date that the Department makes the final determination that the groundwater is under the direct influence of surface water.
- H.** The Department shall provide a written notice to a public water system of a final determination that a groundwater source is under the direct influence of surface water. The notice shall contain the information required by A.R.S. 41-1092.03(A).
- I.** A public water system may appeal a final determination that a groundwater source is under the direct influence of surface water by serving notice of appeal with the Department under the Uniform Administrative Hearing Procedures in A.R.S. Title 41, Chapter 6, Article 10. A public water system shall file notice of appeal with the Department within 30 days after receiving notice of the Department's determination that a groundwater source is under the direct influence of surface water. The Department shall notify the Office of Administrative Hearings which shall schedule a hearing on the appeal within 60 days after the date that notice of appeal is filed with the Department. Hearings shall be conducted according to the Uniform Administrative Hearing Procedures in A.R.S. Title 41, Chapter 6, Article 10.

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**Table 1. Decision Matrix for Determining Groundwater Under the Direct Influence of Surface Water**

<b>Initial Sample MPA Risk Rating</b>	<b>Second Sample MPA Risk Rating</b>	<b>Third Sample MPA Risk Rating</b>	<b>Groundwater Under the Direct Influence of Surface Water</b>
High	High or Moderate		Yes
High	Low	High or Moderate	Yes
High	Low	Low	No
Moderate	High or Moderate		Yes
Moderate	Low	High or Moderate	Yes
Moderate	Low	Low	No
Low	High or Moderate	High or Moderate	Yes
Low	High or Moderate	Low	No
Low	Low		No